

L24	956	23 and 16	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 12:18
L25	528	24 and alloy	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 12:18
L26	489	25 not 14	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 12:19
L27	372	26 and @ad<"20031016"	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 15:30
L28	960	7 and (alloy with 16)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 13:16
L29	103	12 and 28	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 13:16
L30	93	29 and @ad<"20031016"	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 14:21
L31	1	"20050124154".pn. and thick\$	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 14:38
L32	1	alloy and "6713373" and (cu or copper)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 14:41
L33	2	alloy and "6464779" and (cu or copper)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 15:20
L34	2073	alloy with agent with (copper or cu or cual or alcu)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:27
L35	224	adhesion and barrier and 34	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L36	167	35 and @ad<"20031016"	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:22
L37	104	36 and (semiconductor or semi-conductor)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:30
L38	39	alloy with agent with (cvd or vapor) with (copper or cu or cual or alcu)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:28
L39	2	37 and 38	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:27

L40	76	(alloy with agent) same (cvd or vapor) with (copper or cu or cual or alcu)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L41	2	40 and 37	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L42	2	40 and 35	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L43	3198	(alloy) same (cvd or vapor) with (copper or cu or cual or alcu)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L44	610	adhesion and barrier and 43	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:29
L45	4256993	44and @ad<"20031016"	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 15:30
L46	523	44 and @ad<"20031016"	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 15:30
L47	458340	45 and (semiconductor or semi-conductor)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:30
L48	459	46 and (semiconductor or semi-conductor)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:30
L49	435	48 and (trench or via or opening or aperture or interconnect or viahole)	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:31
L50	72	49 and 12	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 15:32

## CAS/STN FILE 'REGISTRY' ENTERED AT 11:30:33 ON 26 SEP 2005

L18 3 S (RHENIUM OR RUTHENIUM OR IRIDIUM)/CN  
 L19 125518 S RU/ELS AND C/ELS AND H/ELS  
 L20 42425 S RE/ELS AND C/ELS AND H/ELS  
 L21 36803 S IR/ELS AND C/ELS AND H/ELS  
 L22 9163 S L19 AND 3/ELC  
 L23 4188 S L20 AND 3/ELC  
 L24 3166 S L21 AND 3/ELC  
 L25 1499 S L22 AND 1/NC  
 L26 152 S L23 AND 1/NC  
 L27 467 S L24 AND 1/NC  
 L28 1250 S RU/ELS,MAC AND IR/ELS,MAC  
 L29 381 S RE/ELS,MAC AND IR/ELS,MAC  
 L30 824 S RE/ELS,MAC AND RU/ELS,MAC  
 L31 2214 S RHENIUM ALLOY  
 L32 3185 S RUTHENIUM ALLOY  
 L33 2291 S IRIDIUM ALLOY  
 L34 368 S (RE/ELS,MAC OR RU/ELS,MAC OR IR/ELS,MAC) AND CARBIDE  
 L35 1806 S (RE/ELS,MAC OR RU/ELS,MAC OR IR/ELS,MAC) AND HYDRIDE  
 L36 238 S (RE/ELS,MAC OR RU/ELS,MAC OR IR/ELS,MAC) AND HYDROXIDE  
 L37 1806 S (RE/ELS,MAC OR RU/ELS,MAC OR IR/ELS,MAC) AND HYDRIDE  
 L38 494 S (L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37) AND 3/ELC  
 L39 554 S (L28 OR L29 OR L30) AND (L31 OR L32 OR L33)  
 L40 57 S (L28 OR L29 OR L30 OR L31 OR L32 OR L33) AND (CARBIDE OR HYDRIDE OR HYDROXIDE OR HYDRIDE)  
 L41 239 S (L28 OR L29 OR L30 OR L31 OR L32 OR L33) AND OXIDE  
 L42 2091 S (L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37) AND OXIDE

FILE 'STNGUIDE' ENTERED AT 11:37:39 ON 26 SEP 2005

FILE 'HCAPLUS' ENTERED AT 11:38:39 ON 26 SEP 2005

L43 178 S (L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR  
 L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR  
 L37 OR L38 OR L39 OR L40 OR L41 OR L42) (L) PRECURS#####

FILE 'REGISTRY' ENTERED AT 11:39:15 ON 26 SEP 2005

L44 29394 S (L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR  
 L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR  
 L37 OR L38 OR L39 OR L40 OR L41 OR L42)

FILE 'HCAPLUS' ENTERED AT 11:39:29 ON 26 SEP 2005

L45 53 S L44(L) TERNARY  
 L46 157 S L44(L) TRIS  
 L47 196 S L44(L) TRI  
 L48 178 S L44(L) PRECURSOR  
 L49 330 S L44(L) (STARTER OR STARTING OR REAGENT OR REACTANT)  
 L50 5063 S L44(L) (RCT/RL OR "RCT VALID VOL. 66 (1967) TO PRESENT"/RL OR REA/RL OR  
 REACTANT/RL OR "REACTANT OR REAGENT"/RL OR "REACTANT OR REAGENT VALID VOL. 136 (2002) TO PRESENT"/RL  
 OR "REACTANT VALID VOL. 66 (1967) TO PRESENT"/RL OR REAGENT/RL)  
 L51 493 S L44(L) (GAS##### OR VAPOR##### OR VAPOUR##### OR SUBLIM##### OR EVAP#####)  
 L52 972 S TERNARY(4A) (RE OR RU OR IR OR IRIDIUM OR RHENIUM OR RUTHENIUM)  
 L53 470 S L44(L) (BOND##### OR GLU##### OR LAMINA##### OR STICK##### OR ADHE#####)  
 L54 108 S L44(L) (PROMOT##### OR AGENT)  
 L55 121 S L44(L) (INTERFAC##### OR INTERLAYER? OR SUBLAYER? OR INTERPOS#####)  
 L56 75 S L44(L) INTERFAC#####  
 L57 90 S L44(L) (DIELEC##### OR INSULAT##### OR NONCONDUCT##### OR NON CONDUCT##### OR  
 SEMIINSULAT?)  
 L58 58 S L44(L) (APERTURE OR OPENING OR HOLE OR RECESS#####)  
 L59 1825 S L44(L) (FILM OR LAYER? OR COAT? OR EPITAX?)  
 L60 71827 S E METALORGANIC VAPOR PHASE EPITAXY/CT  
 ("VAPOR PHASE EPITAXY"/CT OR "METALORGANIC  
 VAPOR PHASE EPITAXY"/CT) OR VAPOR PHASE OR MOVPE OR VPE  
 L61 46 S (L19 OR L20 OR L21) AND L60  
 L62 8713 S L43 OR L45 OR L46 OR (L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53 OR L54 OR  
 L55 OR L56 OR L57 OR L58 OR L59) OR L61  
 L63 59 S L60 AND L62

## FILE 'HCAPLUS' ENTERED AT 11:39:29 ON 26 SEP 2005

L64 167 S L62 AND (IR OR IRIDIUM) (5A) (RE OR RHENIUM)  
 L65 410 S L62 AND (IR OR IRIDIUM) (5A) (RU OR RUTHENIUM)  
 L66 174 S L62 AND (RE OR RHENIUM) (5A) (RU OR RUTHENIUM)  
 L67 57 S L64 AND L65 AND L66  
 L68 852 S L62 AND (RE OR RHENIUM OR RU OR RUTHENIUM  
 OR IR OR IRIDIUM) (3A) TERNARY  
 L69 639 S (L56 OR L57 OR L58) OR L61 OR L63 OR L64  
 OR L67 OR L45 OR (L54 OR L55)  
 L70 2105 S TERNARY AND (L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53 OR L54 OR L55 OR L56  
 OR L57 OR L58 OR L59 OR L60 OR L61 OR L62 OR L63 OR L64 OR L65 OR L66 OR L67 OR L68 OR L69)  
 L71 284 S L70 AND (IR OR IRIDIUM) (3A) TERNARY  
 L72 303 S L70 AND (RE OR RHENIUM) (3A) TERNARY  
 L73 311 S L70 AND (RU OR RUTHENIUM) (3A) TERNARY  
 L74 2 S (L71 OR L72 OR L73) AND (INSULAT? OR DIELEC?) (3A) (FILM OR ?COAT? OR ?LAYER? OR  
 LAMINA? OR STACK? OR SANDWICH?)  
 L75 8683 S L43 OR L45 OR L46 OR (L47 OR L48 OR L49 OR  
 L50 OR L51 OR L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR L58 OR 59)  
 L76 9787 S (L61 OR L62 OR L63 OR L64 OR L65 OR L66 OR L67 OR L68 OR L69 OR L70 OR L71 OR  
 L72 OR L73)  
 L77 29 S L60 AND L75  
 L78 1133 S L60 AND L76  
 L79 183 S (DIELEC? OR INSULAT?)/TI, IT, ST AND L75  
 L80 193 S (DIELEC? OR INSULAT?)/TI, IT, ST AND L76  
 L81 123 S ?ADHE? AND L76  
 L82 117 S ?ADHE? AND L75  
 L83 600 S ?PRECURS? AND L75  
 L84 645 S ?PRECURS? AND L76  
 L85 2105 S TERNARY AND L76  
 L86 1031 S TERNARY AND L75  
 L87 1133 S (L77 OR L78)  
 L88 193 S (L79 OR L80)  
 L89 123 S (L81 OR L82)  
 L90 645 S (L83 OR L84)  
 L91 2105 S (L85 OR L86)  
 L92 0 S L87 AND L88 AND L89 AND L90 AND L91  
 L93 0 S L87 AND L88 AND L89 AND L90  
 L94 0 S L87 AND L88 AND L89  
 L95 11 S L87 AND L88  
 L96 6 S L87 AND L89  
 L97 50 S L87 AND L90  
 L98 1077 S L87 AND L91  
 L99 43 S L97 AND L98  
 L100 6 S L89 AND (L95 OR L96 OR L97 OR L98 OR L99)  
 L101 1077 S TERNARY AND (L95 OR L96 OR L97 OR L98 OR L99)  
 L102 415 S TERNARY/TI, IT, ST AND (L95 OR L96 OR L97 OR L98 OR L99)  
 L103 45 S L77 OR (L95 OR L96) OR L100  
 L104 45 S L103 NOT L74  
 L105 12 S L104 AND (RU OR RUTHENIUM OR RE OR RHENIUM OR IR OR IRIDIUM)/TI  
 L106 12 S L105 NOT L74  
 L107 60 S (L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR  
 L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR  
 L42) (L) ADHE#####  
 L108 0 S (L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR  
 L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR  
 L42) (L) TACK#####  
 L109 78 S (L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR  
 L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42) (L) GLU#####  
 L110 1292 S (RU OR RUTHENIUM OR RE OR RHENIUM OR  
 IRIDIUM) (4A) (GLU##### OR TACK##### OR ADHE#####)  
 L111 730 S (RU OR RUTHENIUM OR RE OR RHENIUM OR IRIDIUM) (4A) TERNARY  
 L112 2 S L110 AND L111  
 L113 2 S L112 NOT (L106 OR L74)  
 L114 29 S ADHESION/TI, ST, IT AND L62  
 L115 3 S L114 AND TERNARY  
 L116 1 S L115 NOT (L112 OR L106 OR L74)  
 L117 17 S ((L107 OR L108 OR L109 OR L110) OR L114) AND (L50 OR L60)

**FILE 'HCAPLUS' ENTERED AT 11:39:29 ON 26 SEP 2005**

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L118      17   S   L117 NOT (L116 OR L112 OR L106 OR L74)
L119     219982 S   MOVPE OR VAPOR PHASE OR VAPOR DEPOSITION OR CVD OR PECVD
L120      1033 S   ((L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR
L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42) OR L111) AND
(L119 OR L51 OR L60 OR IR(4A)TERNARY)
L121       0   S   L120 AND TERNARY/TI,ST,IT AND ADHE#####/TI,ST,IT
L122      15   S   L120 AND ADHE#####/TI,ST,IT
L123     29   S   L120 AND TERNARY/TI,ST,IT
L124       0   S   L120 AND ADHE#####(8A)TERNARY
L125       1   S   L120 AND ADHE##### AND TERNARY
L126     40   S   (L122 OR L123 OR L124 OR L125) NOT (L118 OR L116 OR L112 OR L106 OR L74)
L127       3   S   L126 AND PRECURSOR
L128       0   S   L126 AND (EPITAX##### OR MOVPE)
L129     2339 S   ((L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR
L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42) AND
TERNARY) OR L110
L130     275   S   IR(4A)TERNARY
L131     763   S   (L129 OR L130) AND ADHE?
L132      24   S   L131 AND DIELEC?
L133      24   S   L131 AND INSULAT?
L134      43   S   (L132 OR L133)
L135      42   S   L134 NOT (L127 OR L118 OR L116 OR L112 OR L106 OR L74)
L136      33   S   L135 AND ADHE?/TI,ST,IT
L137       1   S   L135 AND TERNARY/TI,ST,IT
L138      23   S   L135 AND (DIELEC? OR INSULAT?)/TI,ST,IT
L139      22   S   L136 AND L138
L140      23   S   L137 OR L139
L141      19   S   L135 NOT L140
L142       0   S   L141 AND (L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR
L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42)
L143       1   S   L141 AND (L19 OR L20 OR L21)

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**FILE 'INSPEC, JICST-EPLUS' ENTERED AT 12:37:42 ON 26 SEP 2005**

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L144     491   S   (RU OR RUTHENIUM OR RE OR RHENIUM OR IRIDIUM OR IR) (7A) TERNARY
L145     409   S   (RU OR RUTHENIUM OR RE OR RHENIUM OR IRIDIUM OR IR) (7A) ADHE?
L146       1   S   L144 AND L145
L147       8   S   (RU OR RUTHENIUM OR RE OR RHENIUM OR IRIDIUM OR IR) AND ADHE? AND TERNARY
L148       7   S   L147 NOT L146
L149       4   S   (RU OR RE OR IR)/CHI AND ADHE? AND TERNARY
L150       3   S   L149 NOT L146
L151       7   S   (L147 OR L148 OR L149 OR L150) NOT L146

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